user's information manual

TEMPSURE COMMERCIAL PROGRAMMABLE THERMOSTAT (P/N TSTATBBP220-01)

Cancels: New

OM TSTAT-6
11/1/98

CONTENTS

IMPORTANT: Read entire instructions before starting the installation.

GENERAL

Bryant's 7-day, commercial, programmable thermostats are wall-mounted, low-voltage thermostats which maintain room temperature by controlling the operation of an HVAC (heating, ventilation, and air conditioning) system. Separate heating and cooling set points and auto-changeover capability allow occupied and unoccupied programming schedules for energy savings.

All thermostats allow up to 3 occupied and one unoccupied time/temperature setting to be programmed per 24-hour period. Each thermostat stores programs for 7 independent days. Batteries are not required. During power interruption the internal NEVERLOST™ memory stores programs for an unlimited time.

IMPORTANT: The thermostat has a configurable security level. If certain functions are not available (changing set points, changing programming schedules), the thermostat security level may be configured to exclude those functions. Call the installer to reconfigure the security level.

CONFIGURATION

I. THERMOSTAT DISPLAY

The thermostat display is located in the center of the thermostat. See Fig. 1. The following information can be displayed on the screen:

- mode (OFF, HEAT, COOL, AUTO, or PROGRAM ON)
- fan setting (FAN ON or blank)
- override indication
- room temperature
- desired temperature
- service filter indicator
- time of day
- day of the week
- schedule period (Occupied 1, 2, or 3; or Unoccupied)
- setup indicator (programming mode)
- lock indicator
- start/stop indicator (schedule period program mode)

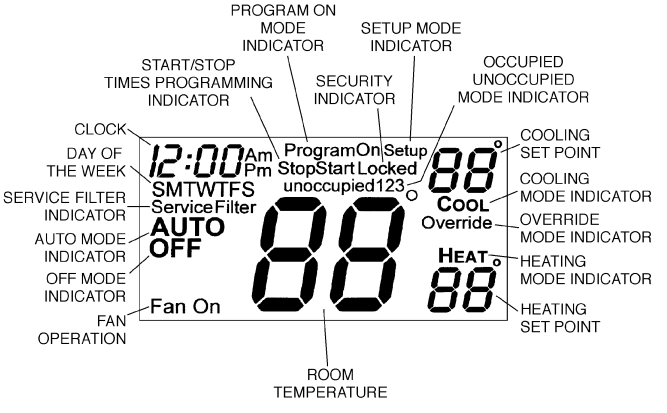

Fig. 1 — Thermostat Display

II. HEAT OR COOL INDICATOR

A Heat or Cool indicator is located on the bottom left cover of the thermostat. See Fig. 2. The light will be red if the thermostat is in Heating mode. The light will be green if the thermostat is in Cooling mode.

III. THERMOSTAT FRONT PANEL BUTTONS

The thermostat has buttons on the front cover which are used to raise or lower the desired set point and override the current program. See Fig. 2.

A. Set Point Buttons

The UP ARROW and DOWN ARROW buttons will raise or lower the current desired temperature set point. If the thermostat is in AUTO mode, pressing the UP ARROW or DOWN ARROW buttons will adjust both the heating and cooling set points. Pressing the UP ARROW or DOWN ARROW buttons in Cooling mode will adjust only the cooling set points. Pressing the UP ARROW or DOWN ARROW buttons in Heating mode will adjust only the heating set points. The UP ARROW and DOWN ARROW buttons are also used in Programming mode.

B. Override Button

The Override button is used to force the thermostat from Unoccupied mode into the Occupied 1 mode comfort settings. The Override period will be set at 30 minutes. The thermostat will then return to Unoccupied mode. To increase the amount of time in Override mode, press the Override button again. Thirty minutes of override time will be added for each time the Override button is pressed up to a maximum of 4 hours. After the 4-hour limit has been reached, press the Override button again to cancel Override mode.

While in Override mode, the Override icon and the Occupied 1 icon will be displayed on the thermostat. The time of day and the minutes remaining in Override mode will alternate on the thermostat display.

The set points are adjustable with the UP ARROW and DOWN ARROW keys during Override mode.

NOTE: If the thermostat is in Occupied mode and the Override button is pressed, the thermostat will go into Unoccupied mode immediately. The thermostat will remain in Unoccupied mode until the next Occupied start time.

IV. THERMOSTAT PROGRAMMING BUTTONS

The thermostat has programming buttons which are used to change the set points of the thermostat, set the modes, and program schedules. The programming buttons are accessible from underneath the thermostat cover. To access the programming buttons, pull on the hinged thermostat cover. See Fig. 3. The programming buttons are: Mode, Fan, Holiday, Program, and Set Clock.

The UP ARROW and DOWN ARROW buttons are used to scroll through programming set points. The buttons are also used to answer yes or no.

A. Keypad Lock

The thermostat has a keypad lockout feature which will not acknowledge front panel buttons until the lockout sequence is entered. To disable or lock the keypad, press and hold the Mode button. While holding down the Mode button, press the UP and DOWN ARROW buttons simultaneously. The "Locked" icon will appear on the display.

The thermostat is unlocked by performing the same procedure. Press and hold the Mode button. While holding down the Mode button, press the Up and Down Arrow buttons simultaneously. The "Locked" icon will be removed from the display.

B. Fan Button Operation

The Fan button selects fan operation. When the fan is set to FAN ON, the fan will run continuously for improved air circulation.

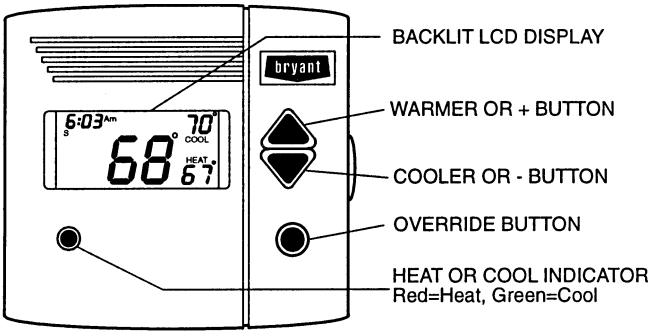

Fig. 2 — Thermostat Front Panel Buttons

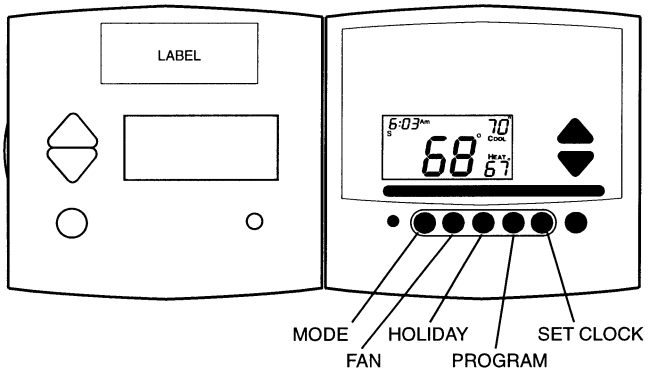

Fig. 3 — Thermostat Programming Buttons

NOTE: When the thermostat is in Unoccupied mode, the fan will run only during heating or cooling operation, even if the fan is set to FAN ON; this is the energy-saving smart fan feature.

When the fan is not set to FAN ON (no icon displayed on thermostat screen), the fan will run during heating and cooling operation only.

C. Mode Button Operation

The Mode button selects the operating mode of the thermostat. If OFF is selected, the thermostat will not enter Heating or Cooling mode. If HEAT is selected, the thermostat will only enter Heating mode (if the room temperature is below the heating set point). If COOL is selected, the thermostat will only enter Cooling mode (if the room temperature is above the cooling set point). If AUTO is selected, the thermostat will enter Heating or Cooling mode based on the room temperature and the heating and cooling set points. If PROGRAM ON is selected, the stored schedule is enabled and the thermostat will follow the Occupied and Unoccupied schedules stored in its memory.

Auto-Changeover

When the thermostat mode is set to AUTO, the thermostat will provide automatic changeover from Heating to Cooling mode and Cooling to Heating mode when required. The thermostat will automatically switch to maintain the desired temperature setting. The thermostat does not need to be manually changed from heating to cooling or cooling to heating operation.

D. Holiday Mode

The Holiday button places the thermostat into Holiday mode. During Holiday mode, the unoccupied set points are enforced. The number of days the thermostat will be in Holiday mode can be set.

V. SET CLOCK

The Set Clock button allows the user to change the time and day displayed on the thermostat. Press the Set Clock button to enter Set Time mode. See Fig. 4. The current time will blink on and off. Press the UP ARROW and DOWN ARROW buttons until the correct time is shown. Hold down the buttons to quickly move through the time display. The AM and PM annunciators will automatically change. To scroll through by hours only, press and hold down the Fan button while pressing the UP or DOWN ARROW buttons. To ensure the schedules are properly followed, make sure that AM or PM is correct for the time chosen. When the correct time is shown, press the Mode button to modify the day of the week. The current day will blink on and off. Press the UP ARROW and DOWN ARROW buttons until the correct day is shown. Press the Set Clock button again to exit the Set Time mode.

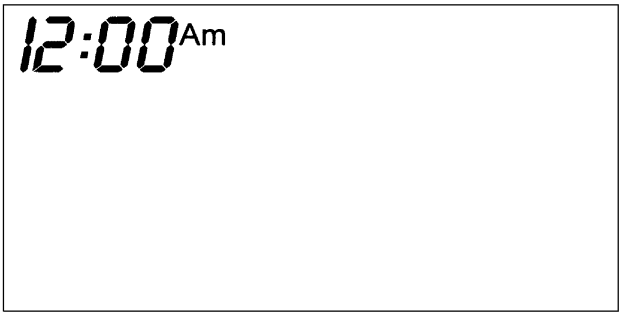

Fig. 4 — Setting the Clock

VI. PROGRAMMING THERMOSTAT SCHEDULES

Before programming the thermostat, plan the thermostat daily schedule. The schedule is divided into 7 days (Monday through Sunday). Each day can have 2 (Occupied 1, Unoccupied), 3 (Occupied 1, Occupied 2, Unoccupied), or 4 (Occupied 1, Occupied 2, Occupied 3, Unoccupied) time periods. Each occupied time period has a start time, stop time, heating set point and a cooling set point. The unoccupied time period has a heating set point and a cooling set point. The unoccupied time period is active whenever an occupied time period is not active. Fill in Table 1 below as an aid to programming the daily schedules.

A. Programming Mode

To program the daily schedules, perform the following procedure:

1. Enter programming mode by pressing the Program button. The Occupied 1 annunciator will appear on the thermostat display. See Fig. 5. Use the UP ARROW and DOWN ARROW buttons to set the maximum number of Occupied periods available. The thermostat can be set to 1, 2, or 3. After the number of Occupied periods has been selected, press the Mode button.
2. The cooling set point for Occupied 1 will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the cooling set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (1 to 37 C). Press the Mode button to continue. See Fig. 5.
3. The heating set point for Occupied 1 will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the heating set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (1 to 37 C). Press the Mode button to continue. See Fig. 5.

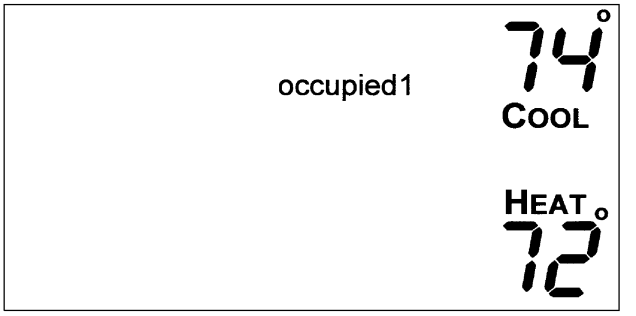

Fig. 5 — Setting Occupied 1 Set Points

4. The cooling set point for Unoccupied will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the cooling set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (1 to 37 C) or “OF” (no unoccupied cooling). Press the Mode button to continue.
5. The heating set point for Unoccupied will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the heating set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (1 to 37 C) or “OF” (no unoccupied heating). Press the Mode button to continue.
6. The day of the week will be shown. Use the UP ARROW and DOWN ARROW buttons to change the day of the week until the desired starting day is shown. Possible choices are M (Monday) through S (Sunday). Press the Mode button when the desired day is shown.
7. The Start Time for Occupied 1 will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the time until the desired Start Time is shown. Press the Mode button to continue. See Fig. 6.

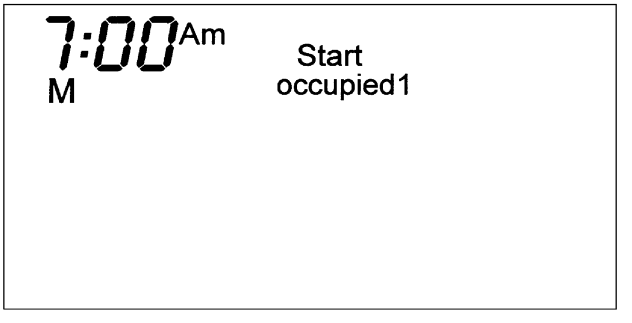

Fig. 6 — Start Time Display

8. The Stop Time for Occupied 1 will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the time until the desired Stop Time is shown. Press the Mode button.
9. The On/Off icon will be displayed. Use the UP ARROW to turn the Occupied 1 period ON for this day. Use the DOWN ARROW to turn the Occupied 1 period OFF for this day.
10. Repeat Steps 2 through 9 to program the remaining schedule for occupied periods 2 and 3 (if selected in Step 1).

Table 1 — Daily Schedule Planner

DAY OF THE WEEK	SCHEDULE			
	Occupied 1	Occupied 2	Occupied 3	Unoccupied
	Start / Stop / Heat / Cool	Start / Stop / Heat / Cool	Start / Stop / Heat / Cool	Heat / Cool
Monday	/ / /	/ / /	/ / /	/
Tuesday	/ / /	/ / /	/ / /	/
Wednesday	/ / /	/ / /	/ / /	/
Thursday	/ / /	/ / /	/ / /	/
Friday	/ / /	/ / /	/ / /	/
Saturday	/ / /	/ / /	/ / /	/
Sunday	/ / /	/ / /	/ / /	/

NOTE: The cooling temperature set point must be higher than the heating temperature set point.

11. The Copy command can be used to copy the previous day's schedule if the schedules are the same. The copy command becomes available after all the occupied periods are programmed in a day. Use the UP ARROW to change the copy command to YES. Use the DOWN ARROW to change the copy command to NO. Press the Mode button when the choice has been made. See Fig. 7.

    If NO was selected, the schedule will automatically change to the next day and the user must enter the occupied and unoccupied schedules for that day.

NOTE: Occupied 1 schedule heating and cooling set points are the same for each day. Occupied 2 and 3 set points may be set to different values for each day of the week.

    If YES was selected, the schedule will be copied to the next day. The schedule copy may be repeated until Sunday is reached. The Sunday schedule cannot be copied to Monday.

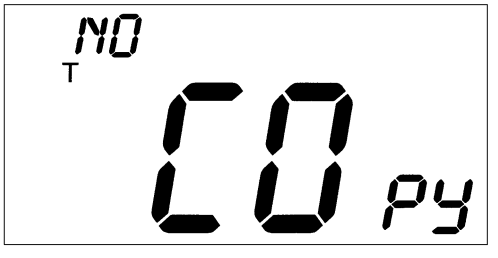

Fig. 7 — Copy Command Display

12. After all the times and set points for each day have been entered, press the Program button to finish entering the schedule.

NOTE: The thermostat will continue to follow the schedule until a new one is entered.

- If only one occupied schedule is selected, the Occupied 2 and 3 schedules are skipped.
- If the start time is set later in the day than the stop time, the program will run from midnight of that day to the stop time and then from the start time to midnight.
- If the same start and stop times are programmed for an occupancy schedule, the thermostat will be in Occupied mode for 24 hours.
- If one occupied period starts or stops within another occupied period, the lower numbered schedule has priority. For example, if schedule Occupied 3 is running for 24 hours and occupied schedule 2 comes on from 1 to 3 PM, the set points from Occupied 2 are in effect from 1 to 3 PM.

B. Overriding the Schedule

The schedule can be overridden during operation by pressing the UP or DOWN ARROW buttons to change the desired temperature. The thermostat will use the new set point until the next scheduled time period starts.

OPERATION

The Mode button selects the operating mode of the thermostat. If OFF is selected, the thermostat will not enter Heating or Cooling mode. If HEAT is selected, the thermostat will only enter Heating mode (if the room temperature is below the heating set point). If COOL is selected, the thermostat will only enter Cooling mode (if the room temperature is above the cooling set point). If AUTO is selected, the thermostat will enter Heating or Cooling mode based on the room temperature and the heating and cooling set points. If PROGRAM ON is selected, the stored schedule is enabled and the thermostat will follow the Occupied and Unoccupied schedules stored in its memory.

I. AUTO-CHANGEOVER

When the thermostat mode is set to AUTO, the thermostat will provide automatic changeover from Heating to Cooling mode and Cooling to Heating mode when required. The thermostat will automatically switch to maintain the desired temperature setting. The thermostat does not need to be manually changed from heating to cooling or cooling to heating operation.

II. TWO-STAGE OPERATION

The second stage of heat or cool is turned on when the first stage has been on for a minimum of 2 minutes and the temperature differential from the set point is equal to or greater than the set point plus the deadband plus 2 degrees.

III. CLOCK BACKUP

In the event of a power loss, the thermostat will keep time for a minimum of 48 hours without external power or batteries.

IV. FAN OPERATION

If Fan On is selected, the fan will run continuously during occupied schedule (except when Mode is switched to OFF). The fan will be off during unoccupied schedule except during heating or cooling operation.

If Fan On is not selected, the fan will only operate during heating or cooling operation.

V. EMERGENCY HEAT

Emergency heat is available for heat pump applications. To turn on emergency heat, press and hold the Fan button. While holding the Fan button, press the UP button for 2 seconds. An "EH" will be displayed. During emergency heat, the fan will operate and the second stage of heat will be energized (locking out the first stage compressor). To exit emergency heat, press and hold the Fan button. While holding the Fan button, press the UP button for 2 seconds. During emergency heat, only OFF and HEAT modes are available.

VI. ELECTRIC HEAT

When the Electric Heat option in the advanced set up is set to ON (configured by installer), the thermostat will turn on the fan immediately any time there is a heat demand. This feature should only be used on electric heating applications. Do not use with gas heat.

VII. HOLIDAY MODE

When the thermostat is in Holiday mode, the thermostat will operate under Unoccupied set points. To configure and activate the Holiday mode, press the Holiday button. The "HOL" icon will be displayed along with the remaining days of Holiday mode operation. Press the UP or DOWN ARROWS to select the number of days that the holiday schedule will be in effect. A value of 0 disables Holiday mode. The duration can be set from 1 to 99 days. The thermostat will enter Holiday mode on midnight of the next day after the mode has been activated. Holiday mode will remain in effect until midnight of the last configured day.

If the Holiday mode is in effect, the number of days remaining will blink on and off and the "Unoccupied" icon will be displayed. The Override button will be active during Holiday mode.

To turn off the Holiday mode before the remaining configured days have passed, press the Holiday button to enter the configuration mode. Press the DOWN ARROW to set the number of days to zero. Holiday mode will be disabled.

Bryant Heating & Cooling Systems

FOR SERVICE OR REPAIR, FOLLOW THESE STEPS IN ORDER:

FIRST: Contact the installer. If his name is not known, call your builder if yours is a new residence.

SECOND: Contact the nearest distributor. (See telephone yellow pages.)

THIRD: Contact:

BRYANT HEATING & COOLING SYSTEMS
Consumer Relations Department
P.O. Box 4952
Syracuse, New York 13221-4952
Phone: 1-800-428-4326

Model No. _____ Unit Serial No. _____

Date of Installation _____ Installed by _____

Name of Owner _____ Address of Installation _____

THERMOSTAT PRODUCTS LIMITED WARRANTY

ONE-YEAR WARRANTY—This Bryant Heating & Cooling Systems (herein after referred to as "Bryant") product is warranted to be free from defects in material and workmanship under normal use and maintenance for a period of one year from the date of original installation whether or not actual use begins on that date. A new or remanufactured part, at Bryant's sole option, to replace any defective part will be provided without charge for the part itself; PROVIDED the defective part is returned to our distributor through a qualified servicing dealer. The replacement part assumes the unused portion of the warranty.

THIS WARRANTY DOES NOT INCLUDE LABOR OR OTHER COSTS incurred for diagnosing, repairing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts. Such costs may be covered by a separate warranty provided by the installer.

THIS WARRANTY APPLIES ONLY TO PRODUCTS IN THEIR ORIGINAL INSTALLATION LOCATION AND BECOMES VOID UPON REINSTALLATION.

LIMITATIONS OF WARRANTIES—ALL IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY) ARE HEREBY LIMITED IN DURATION TO THE PERIOD FOR WHICH THE LIMITED WARRANTY IS GIVEN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE MAY NOT APPLY TO YOU. THE EXPRESSED WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON WHATSOEVER.

ALL WORK UNDER THE TERMS OF THIS WARRANTY SHALL BE PERFORMED DURING NORMAL WORKING HOURS. ALL REPLACEMENT PARTS, WHETHER NEW OR REMANUFACTURED, ASSUME AS THEIR WARRANTY PERIOD ONLY THE REMAINING TIME PERIOD OF THIS WARRANTY.

BRYANT WILL NOT BE RESPONSIBLE FOR:

1. Normal maintenance as outlined in the installation and servicing instructions or owners manual including coil cleaning, filter cleaning and/or replacement and lubrication.
2. Damage or repairs required as a consequence of faulty installation, misapplication, abuse, improper servicing, unauthorized alteration or improper operation.
3. Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service.
4. Damage as a result of floods, winds, fires, lightning, accidents, corrosive environments or other conditions beyond the control of Bryant.
5. Parts not supplied or designated by Bryant, or damages resulting from their use.
6. Bryant products installed outside the continental U.S.A., Alaska, Hawaii and Canada.
7. Electricity or fuel costs or increases in electricity or fuel costs from any reason whatsoever including additional or unusual use of supplemental electric heat.
8. ANY SPECIAL INDIRECT OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER. Some states do not allow the exclusion of incidental or consequential damages, so the above limitation may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

CATALOG NO. 13TS-TA2 Effective on products manufactured after January, 1997. Supersedes any other warranty certificates supplied with the product. 39004DP164

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CATALOG NO. 809-696